

8/1/2019



RELIABILITY MONITOR REPORT
FOR

QFP Package

MAXIM INTEGRATED

160 RIO ROBLES
SAN JOSE, CA 95134

This Report was prepared by
MAXIM INTEGRATED Reliability Engineering

Summary:

The data in the tables that follow was generated as the result of an on-going Package Reliability Monitor. The specific assemblies included in this package monitor are:

ASSY SITE	PINS PACKAGE		
ASE Chung-Li	48	TQFP (Pb-Free)	ASE Kaoshiung 48 LQFP (Pb-Free)
ASE Kaoshiung	64	LQFP (Pb-Free)	ASE Kaoshiung 64 TQFP (Pb-Free)
ATP (Amkor, PI)	44	TQFP (Pb-Free)	

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 46314 FITS: 2.5

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows. At the start of this data is a description of the assembly vehicle used to generate this reliability data. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 4/1/2019 and 8/1/2019.

Assembly Information:

Package Type: LQFP (Pb-Free)
Date Code Range: 1826 to 1910

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1826	MAX14802ECM+	125°C	1000 HRS	80	0	
Total:						0	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
CONVECTION REFLOW	1826	MAX14802ECM+	85 C/85% R.H.	3 PASS	300	0	
CONVECTION REFLOW	1910	MAX17823BGCB/V+ CV	260C +/-5C	3 PASS	316	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1826	MAX14802ECM+	150°C	1000 HRS	80	0	
STORAGE LIFE	1910	MAX17823BGCB/V+ CV	150°C	1000 CYS	79	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1826	MAX14802ECM+	-65C TO +150C (Condition C)	1000 CYS	79	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1910	MAX17823BGCB/V+ CV	-65C TO +150C (Condition C)	1000 CYS	80	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1910	MAX17823BGCB/V+ CV	130C, 85% R.H.	96	CYS	80	0
						Total:	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1826	MAX14802ECM+	130C, 85% R.H.	96	HRS	80	0
						Total:	0

Assembly Information:

Package Type: TQFP (Pb-Free)

Date Code Range: 1838 to 1849

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1838	MAX9249DGCM/V+	125°C	1000	HRS	39	0
HIGH TEMP OP LIFE	1840	MAX9259GCB/V+	125°C	500	HRS	80	0
HIGH TEMP OP LIFE	1849	87-21348+T00	125°C	1000	HRS	33	0
HIGH TEMP OP LIFE	1849	87-21348+T00	125°C	1000	HRS	33	0
HIGH TEMP OP LIFE	1849	87-21348+T00	125°C	1000	HRS	14	0
						Total:	0

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
CONVECTION REFLOW	1849	87-21348+T00	85 C/85% R.H.	3	PASS	349	0
						Total:	0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1849	87-21348+T00	150°C	1000	HRS	80	0
						Total:	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1849	87-21348+T00	-65C TO +150C (Condition C)	1000	CYS	80	0
						Total:	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1849	87-21348+T00	130C, 85% R.H.	96	HRS	80	0
						Total:	0

FAILURE RATE: MTTF (YRS): 46314 FITS: 2.5